The relationships between stock market capitalization and economic growth

"Applied on Egyptian economy for the period "(1989:2015)

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Abstract

In recent years developing countries attracted large amount of capital through stock market so, it stock market development took a great attention as its importance for the economy increase and its size go up and took a large percentage of over all the economy size for most of this countries.in this study the researcher tried to investigate the relationship between two main variables: stock market growth and economic growth applied on Egyptian economy using ARDL model for data from 1989 to 2016, using three main indicators for stock: stock market capitalization, turn over and traded value market and GDP indicator for economic growth. we found that there is a negative significant relation between stock market capitalization and economic growth, and a positive significant relation between stock market turnover, traded value and economic growth on Egypt in long run.

Keywords: economic growth, stock market capitalization, traded value, turnover ratio, ARDL

Introduction:

The relationships between stock market and economic q growth is one of the most enduring debates in recent economies; financial development causes economic growth or economic growth cause stock market development or both affect each other or no relation between them. we have more than one opinion for this relation, one of them;

"Schumpeter" argued that technological innovation is the force underlying long-run economic growth, and that the cause of innovation is the financial sector's ability to extend credit to "the entrepreneur"

on the other hand; Joan Robinson, maintained that economic growth creates a demand for various types of financial services to which the financial system responds, so that "where enterprise leads finance follows".

We will try in advanced section to investigate the relation between financial markets development especially stock market development and economic growth in Egypt.

Statement of the problem; As The stock market is very important to any country's economy, varies in its size and its growth and its importance, according country classification developed or developing or even For underdeveloped countries and this role is very clear for developed countries while in other type is not clear as some promote economic growth, other play un important role in economic growth, other negative effect on economic growth. Stock markets encourage specialization and may reduce the cost of mobilizing savings, thereby facilitating investment (Greenwood and Smith 1997). (Diamond and Verrecchia 1982; Jensen and Murphy 1990). Does it promote Egyptian economic growth.

Objectives of research :

Based on what presented in the introduction and the research problem, we find the main objective of the research identify the relation between Egyptian stock market capitalization and economic growth :

1- Study the theories of stock market importance.
2- Study the development of stock market in Egypt
3- Study the relationship between stock market capitalization and economic growth in developed countries
4- Using stock market indicators to economic Expectation
5- -Help developing countries to make decision to encourage the stock market or not.

Section: 1

Introduction to stock market importance and economic growth

we will discuss what is the meanings of stock market definition, importance and its supposed functions and types of stock markets, participants of stocks markets, its tools, types of operation can be done through it, stock market efficiency, globalization of stock markets. economic growth definitions, reasons, its objectives, its stages.

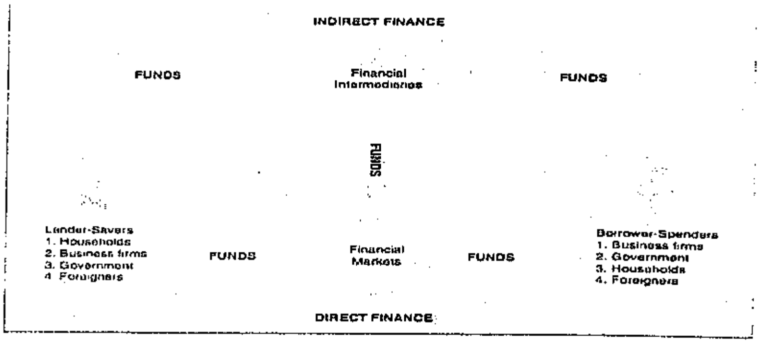
Before_starting discussion of financial market, we distinguish between economic investment and financial investment, as we can define economic investment as paying new issue securities for new investment. Or for increasing capital of old companies while financial investment more wide than economic investment as it includes trading in old and new financail tools.

Financial markets do not have a certain definition but all definition are closed to each other , in general markets can be define as a place where buyer and seller meet together to conduct transaction or a place where demand and supply of goods or services or factors of production are meet together ,starting from barter system: where exchange goods for another ,then precious metal system where goods exchange for gold and silver then innovation of money ,then the revolution of technology ,internet and online transactions and electronic money .

So financial market could be define as:" a place or somewhere where buyers and sellers of financial instruments are meet together or a place where funds transfer from people who have excess money to people who have a shortage" [1](s.Mishkin, 2010)or it is

• [1].

the mother market of all markets that deal with all short run financial assets ,instrument like treasury bills and long run instrument like securities and bonds (2)(Don M. Chance2011)



graph of Fellow of funds[2]

We can divide financial markets into several types of markets **1-Debt and Equity markets**: People and firms can get fund from two types of financial markets; debt instrument such as bond, mortgage and pay fixed interest payment and the principal payment periodically.

Or issuing securities like common stocks and pay periodic dividends.

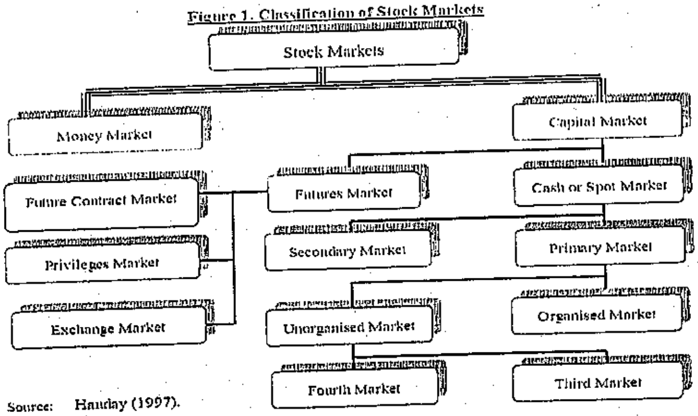
Also, can be divided into Primary markets and Secondary markets according to Issuance:2- **Primary markets;** financial market in which the new issue of securities, where securities are sold for the first time for initial buyers, while **Secondary market**; markets where previous issued securities can be traded

Also, can be divide into organized Exchanges and Over-Counter Markets according to place where transaction conduct:3- **Organized Exchanges;** where buyers and sellers of financial instrument meet in central place to conduct transactions, **Over-Counter Markets;** where buyers and sellers of financial instrument in different location to conduct transactions.

Also, can be divide into Money markets and Capital markets according to time of maturity:4- **Money markets**; markets deal with short term financial instrument usually less than one years like Treasury bills, commercial papers, bankers' acceptance, issued by banking system represented by Central banks and commercial banks , spot market or cash market is a public financial market in which financial instruments or

- [2] Frederic S. Mishkin (2010), the economics of money, banking and financial markets commodities are traded for immediate delivery. It contrasts with a futures market, in which delivery is due at a later date.

Figure 1. Classification of Stock Markets



Source: Handay (1997).

Some types of financial instrument can be discuss through its definition: **Treasury Bills**; short term financial instrument issued by government to fund government budget deficit usually ,negotiable bank **Certificates Deposit (CD)**;a debt financial instrument sold by banks to depositors that pay annual interest until maturity pays back the original purchase price , **Commercial Papers** ;short term debt instrument issued by large banks and well known corporation, **Bankers' Acceptance** ;short term instrument issued to carry out international trade , **Repurchase Agreement**; short tram loans work as guarantee for lender if borrower not pay back loan (less than 2 weeks) ,other types related to **Capital markets** like ; **Common Stocks**: equity instrument with no maturity date and claims one net income and asset of corporation ,main disadvantage it's a residual claimant ,which mean company had to pay all its debt firstly then equity owners, while the main advantage is that its value increase when prices go up and company income increase, **Corporates bonds** long run financial instrument issued by large companies ,they pay fixed interest payment for bonds holders main advantage its not residual claimant like share must pay firstly ,main dis advantage not benefits from companies income increase , **Government bonds** ,**Securities** issued by government for maturity greater than one year , other types related to international financial markets like **Eurobonds**; bonds in currency other than currency of country in which they sold .

functions and importance of financial markets and stock market as part of economy from all points views (economy, investors, companies, lenders, government):

1-providing funds for greater investment projects which is very hard and costly in comparison with bank loans,2-distribute capital among different investment projects in efficient way as good performance company reflected on securities price, helping companies raise fund smooth 3-not lead to inflation as it happens from fund of banking sectors.as its not a process to create money 4- can be used as general indicators for overall economy performance, as most of countries have a well regulated stock market its performance consider mirror for over all economic performance 5-its expansion lead to increase wealth of owners of financial instruments, as prices of stock increase owner of this stock rise thier wealth 6-risk diversifications for people always hate risk as availability of different companies securities, can paying more than companies securities and reduce risk of invest in one company 7-government tool to control inflation through selling and buying treasury bills and bonds, government can sell treasury bonds and bills to reduce amount of liquid money on hands and reduce inflation as result and vice-versa 8-government use to fund budget deficit: as Government's have budget deficit can use stock market to sell bonds to cover its deficit 9-easy way to transfer financial assets ownership as its an electronic save transfers. 10- lead to better management of companies as to supervision from owners of financial instruments and other market supervision organization(government), because owner of securities have right to vote on company's general meeting and observe management performance and also can get rid of bad securities. 11-give ability to people to invest in public and listed companies., as most government try to reduce number of public companies by selling it for people through stock market. 12-abillity to sell their sharing without affecting company's performance, 13-better liquidity in easy way to buy and sell tools, take no time for selling or buying a transactions14-incourage private family companies to convert to cooperate companies through financial markets and increase their activities.15-help companies raise fund with lower cost than getting loans from banking sectors.as it cost only transaction costs only which is lower than loan costs or interest payment 16-provide different investment opportunities to local and foreign saving. Becuase thier are a lot of sectors and each sectors have a lot of companies with different value and performance 17- help government in transferring process toward privatization process as we mention before help governmet transfer into privatization process. 18- all above function lead to better saving and investment environment which supposed to better economy performance and increase people welfare.

Section :2

economic growth:

Before starting to identify the relation between stock market and economic growth, we will summarize the Economic growth definitions elements and theories and it's how it's different from economic development or not?

So, starting with define economic failure and its characteristics: **economic failure** could be defined as countries that depend on agricultural or extractives economy which lead to following characteristic's:

1-un efficiency use of available resources natural or human.2-small size of manufacturing sector comparing to agriculture or extractive sectors 3- high dependency to foreign countries4- multinational companies control countries through own countries natural resources 5-low stander of living, health care, educational level, political instability.

Economic Development &Economic Growth: There are many definitions for economic growth and economic development and a lot of differences' among them, as most economists define **economic growth** as increase in countries real gross domestic productions(total value of final goods and services produced within countries boundaries for a year) or increase in GDP per capita (**GDP/NO.POP**)share of individual income from GDP ,using real GDP to remove the effect of inflation(increase in prices) from nominal GDP.

"While economic development could be defined as overall change or structural development in economic, social and intellectual to provide better life for people" (Medhat Al Quraishi)

"The process through which an increase in per capita real income over time, through changes in both the production structure and the quality of goods and services produced as well as change in the pro-poor income distribution structure" (Mohamed Abdelaziz Agamia and Abderrahmane Yusra Ahmed).

or "The set of policies taken by a particular society that lead to increase economic growth rates based on its strengths, Self-sufficiency, continues and is balanced to meet the needs of the members of society and to achieve as much justice as possible (Mohamed Medhat Mustafa and Suheir Abdel Zaher)

so, the difference between economic growth and development is that economic growth care about increase in income only or GDP continuously while economic development take in considerations structural economic development and human development and social, political development can we measure it through: .1-income element 2-socail elements 3-structural element's

so we can increase economic growth through several element's ;stable organizations, training for human capital ,and specialization and division of work according to "Adam smith" and comparative advantage law for "David Ricardo" . the new classical theory referred economic growth to external elements; economic growth for long run will not happen even if change in external element like population growth ,or saving rate or technology rate that helps to increase production then lead to increase and continuous economic growth while internal growth theory deny previous theory and insisting on economic growth can be achieved through accumulation in human capital other economics theories that help to achieve economic growth or development ,so economic growth requirements;-capital accumulations .human resources, natural resources , technology.

Section 3: empirical overview

The linkage between stock market development and economic growth emerging markets economies" *Pramod Kumar Naik, Puja Padhi (2015)*[3]:

Question: The researchers in this paper try to test the effect of economic growth and stock market development for countries that classified as emerging economies (Argentina, Brazil, Bulgaria, Chile, China, Colombia, Egypt, Estonia, Hungary, India, Indonesia, Latvia, Lithuania, Malaysia, Mexico, Peru, Philippines,------)

Data, Methodology: Using unite root test for annual panel data of 27 emerging countries to test stationary of data, solve some problem that appear in data to apply (system GMM) estimator, and use causality test to determine the relation. The researcher use three indicators for stock market development as most of literature reviews which are capitalization ratio of stock market, turnover ratio and total traded value and used (GDP) real gross domestic product as indicators for economic growth **Results:** After using causality test found out that stock market development has a significant contribution to economic growth ,one direction of this relation from stock market development to economic growth

Research implications the results consist with previous studies that, the well-organized stock market and more integrated with global market, can help to increase economic growth for developing economies.

"stock market: A spur for Economic Growth" *Asil Demirgüç-Kunt and Ross Levine (1996)*[4]:**Question:** Can developing countries get gain from stock market or not? Over the period of 1986to 1996, the global market value of stock listed increased from4.6 trillion 15.2 trillion, and the emerging stock market share triple increased from 4 percent to about 13 percent ,while some economists hesitate the benefit of stock market for emerging countries as they describe it as (casinos),while other recent proved that can give a push up for the economy **Data, methodology;** The researcher sample include all countries types from developed or industrial to developing countries and less developed with total 38 countries Using data for market capital of stock market and turn over and volatility of stock market Result: The relation was found as positive but with well development regulation ,taxes , supervisor system

"The relation between economic growth and stock market development in Pakistan *"Nazir, Mian Sajid Musarat Nawaz, Muhammad Gilani, Usman (2010)*[5]:

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[3]Pramod Kumar Naik, P. P. (2015). The linkage between stock market development and economic growth in emerging market economies,. *Emerald Group Publishing Limited, 14*(4), 363-381.

[4] Levine., A. D.-K. a. R. (1996). Stock Markets:A Spur to Economic Growth. *world bank, 33*, 1-13.

3 Nazir, M. S., Musarat Nawaz, M., & Gilani, U. (2010). *Relationship between economic growth and stock market development* (Vol. 4).

Question: Find out the relationship between stock market economic growth for Pakistan Start from the stock market can provide fund for companies which lead to more productivity and foster economic growth ,but this happen only which well-organized stock market that help reduce risk through risk diversification , allocates capital efficiently, mobilizes domestic savings, helps diversifying risks and facilitates exchange of goods and services (Mishkin, 2001; Caporal et al., 2004).

Data, Methodology: Using data from 1986to 2008 of Pakistan economy, using ADF to test stationary of data, use2 variables for stock market development: stock market capitalization as percentage of GDP for market size, STOCKM AMRKT TURN OVER for liquidity

Yt=□0 +FDIt+HDIt+MKTt+LIQt+e

Where Yt refers to GDP, FDI for foreign direct investment, HDI human development index, other for stock markets indicators

Result: A Significant positive relation between both of stock market indicators and economic growth for Pakistan

"stock markets, Banks, Economic growth" *Levine, Ross*Zervos, Sara(1996)*[6]: **Question:** Can well developed stock market help countries to achieve economic growth?

The relation between growth and stock market have a historical debate, while the other hand the relation between Banks and growth are cleared and positive, Historically, economists have concentrated on banks. Walter Bagehot (1873) and Joseph Schumpeter (1912) emphasize the critical importance of the banking system in economic growth and highlight circumstances when banks can actively spur innovation and future growth. While stock market literature gave little evidence on the relation between stocks and growth. **Data, Methodology:** Using data of 49 countries from period of 1976 to 1993, using Auto Correlation Data Methodology, and three indicators for stock market development: market capitalization, turnover ratio, and traded value Result: Over all positive and significant relation between stock market development and long run economic growth and capital accumulation, productivity growth.

"Stock market development and economic growth: Evidence from least developed countries" *Boopendra Seetanah, Ushad Subadar, Raja Vinesh Sannassee, Matthew Lamportand Vashisht Ajageer (2012)*[7] **Question: Find** out the relation between growth of the economy and stock market development for least developed countries (LDC)? Most

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[6] Levine, R. Z., Sara. . (1996). Stock markets, banks, and economic growth *Washington, DC: World Bank, 1.*

[7] Boopendra Seetanah, U. S., Raja Vinesh Sannassee, Matthew Lamport and Vashisht Ajageer. (2012). *Stock market development and economic growth:*
Evidence from least developed countries (Vol. No 1205). Competence Centre on Money, Trade, Finance and Development 1205, Hochschule fuer Technik und Wirtschaft, Berlin.

of literature reviews illustrated the importance of banking sectors for least devolving countries, as most of this country are baking oriented, while stock market importance illustrated as less important. **Data, Methodology:** Using data of 10 countries that classified as least developed countries according to world bank ranking for the period 1995-2009.Using the stock market capitalization for size and turn over for liquidity

GDP = f (SMDEX, BANKGDP, CPI, EDUC, EXGDP)

Results: Insignificant relation between stock market and economic development, positive relation with banking sector as most of least developed countries are banking oriented, and size of stock market still small for the economy. **"Stock Market Development and Economic Growth: Evidence from Developing Countries"** *Hamid Mohtadi and Sumit Agarwal(2007)*[8]:

Question: The researchers try to find out the relation between stock market development and economic growth. Starting from the rapid increase of market capitalization of developing countries stock market from 4.7triillion to 15.2 trillion dollars over recent years, while the importance or the type of relation with economic growth still unclear special with long run growth, most of previous studies illustrate no relation or negative relation.

Data, Methodology: Using panel regression for data over 21years of 21 countries, stock market turn, traded value over as indicator for liquidity, capitalization for size of market, other explanatory variables' FDI, INVSF.

Results: All stock market indicator has appositive relation with economic growth directly or indirectly through investment which lead to economic growth.

"Stock markets, banks, and growth:Panel evidence" *Thorsteneck Ross Levine,(2002)*[9]:

Question: Try to illustrate the relation between stock market ,bank and economic growth.

the economic theory not have aclear illustration of the realtion between growth and fiancail itermediares and its seperated effect s for stock markets ,banks. **Data, Methodology:**Using OLS for a panel data of 40 countries over perio1976-1998
Result: Found a significant positive relation between stock market development and economic growth. **"Banks, Stock Markets and Economic Growth: Evidence from Selected Developing Countries"** Md. Reboul Islam (2010)[10]:

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[8] Mohtadi, H., & Agarwal, S. (2007). *Stock Market Development and Economic Growth: Evidence from Developing Countries.*

[9] Levine, T. B. R. (2002). *Stock markets, banks, and growth :Panel evidence*

[10] Islam, M. R. (2010). Banks, Stock Markets and Economic Growth: Evidence from Selected Developing Countries. *academia.edu, Decision, Vol. 37,*(No.3,), 26.

Question: Find out the relation between stock market development, banks and economic growth for developing countries?

As most of developing countries were colonized by foreign countries and got their independency during1950s-1960s, their financial sector was affected and newly organized and most of them where banking oriented to serve colonies trade, and the financial sector mostly government ownership and intervention and control, the development of this sector was oriented by IMF programs (SAP) Structural Adjustment Programs **Data, Methodology:** Using General Methods of Moments (GMM) for 80countries over period of 1973-2002 **Result:** Found a significant positive relation between stock market and economic growth also with banks, overall positive effect for stock market and banks together on growth

Section 4:

Data, Methodology: researchers used Johannessen test for co integration between data for financial development and economic growth

result: the causality relation in long run between economic and banking system in tow direction while with stock market is short **run relation not found in long run and one direction from stock market to economic growth**

"The Role of Financial Market in Activating Economic Growth and Foreign Trade*d.* *Samir Shraf*Dr. Ismail Shaban ,Huda Esber (Arabic)(2009)*[11]*:*

Question: Determine the relationships between financial paper circulations in developing Markets and their negative /positive effects on activating foreign trade transactions.

Authors found four opinions about financial markets and economic growth from previous studies zero importance (Italy Korea) no stock market, negative relation, positive in one direction, positive bi direction

Data, Methodology: Simple regression model between economic growth and stock market, This study from2003-2006 for 10 Arabian countries, Another one between exports and exports and stock development

Result: There are exchangeable positive relation between stock market and economic growth, the stock liquidity and information available, more saving, more production

Methodology and Econometric model:

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[11] سمير، ش. (2009). دور السوق المالية في تفعيل النمو الاقتصادي والتجارة الخارجية (Vol. 031).

Applying **ARDL** conditions we got this equation that illustrated the relation among model variables:

$$GDP_t=\beta_t+MKT_t+TV_t+TO_t+DEF_t\,.$$

Where GDP reflect economic growth MKT stock market capitalization, TV stock market traded value, TO stock market turn over ration, DEF GDP deflator.

As the stock market does not mean that the greater the higher the efficiency, but generally, the larger the stock market, raise capital and diversify risk, the stronger the ability, lead to higher investment, higher productivity, higher GDP.

While stock market turnover and total traded value both reflect the liquidity of stock market, as high turnover, traded value reflects the lower transaction costs, stock market, or market speculation active, lead to good stock market contribution to economic development, and high GDP.

GDP Deflator and GDP have positive relation as price increase provide incentive to increase productivity and in sequence increase GDP.

Model Hypotheses: GDP and Stock market capitalization have a positive relation.

Where the stock market variable's represent dependent variable's and GDP as independent variable.

Unit Root Test

are tests for stationary in a time series. A time series has stationarity if a shift in time doesn't cause a change in the shape of the distribution; unit roots are one cause for non-stationary.

•**The Dickey Fuller Test** (sometimes called a Dickey Panthula test), which is based on linear regression. Serial correlation can be an issue, in which case the Augmented Dickey-Fuller (ADF) test can be used. The ADF handles bigger, more complex models. It does have the downside of a fairly high Type I error rate.

The null hypothesis is generally defined as the presence of a unit root and the alternative hypothesis is either stationarity, trend stationarity.

Unite root test:

GDP	mkt	TO	TV	DEF	
pass	Not pass	pass	Not pass	pass	Without level, intercept
pass	Not pass	pass	pass	pass	First difference, intercept
pass	pass	pass	pass	pass	First difference without trend or intercept

Substituted Coefficients:

GDP = -0.4326*GDP (-1) + 0.0352*MKT - 0.1064*MKT (-1) - 0.0753*MKT (-2) - 0.08164*MKT (-3)+0.12215*TV+0.14466*TV(-1)+0.12443*TV(-2)-0.03483*TV(-3)+0.05692*TV-0.013866*DEF - 0.0588*DEF (-1) - 0.16545*DEF (-2) + 9.277

FROM ARDL table:

As we have f test value 6.36 greater than critical bound values at all significant level 1%,5%,10%, we have a relation among model variable in short run and can use it to test long run relation.

R-squared or coefficient **of determination**=0.890903 mean that the change in model variables explain about 89% of the change in GDP

ARDL Cointegrating And Long Run Form:

D(GDP) = 0.03523*D(MKT) + 0.07534*D(MKT(-1)) + 0.08164*D(MKT(-2)) + 0.12215*D(TV) - 0.124438*D(TV(-1)) + 0.03483*D(TV(-2)) + 0.0569*DTO -0.013866*D(DEFLATOR) + 0.16545*D(DEFLATOR(-1)) -1.432644316792*(GDP - (-0.15932*MKT(-1) + 0.24878*TV(-1) + 0.03973*TO (-1) -0.16626*DEFLATOR(-1) + 6.47606

Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MKT	-0.159325	0.034027	-4.682267	0.0009
TRADED_VALUE	0.248783	0.059652	4.170572	0.0019
TURN_OVER	0.039736	0.014387	2.761885	0.0201
DEFLATOR	-0.166266	0.044952	-3.698767	0.0041
C	6.476067	0.729819	8.873522	0.0000

Econometric model residual diagnostic problems tests:

Model variables pass Breusch-Godfrey Serial Correlation LM Test for serial correlation among variables,

Normality test, Heteroskedasticity Test: which mean our model pass not have any econometric problem.

Cointegrating Equation: **Final equation:**

$$GDP=-.159325MKT+0.248783TV+0.039783TO-0.166266\ DEF+6.476067$$

Results and recommendations:

Results:

1- all variables in our model have a significant effect on the model on the long run (table)

2- -but the effect varies from one to another

3- as mkt or stock market capitalization has a negative significant effect on GDP by -.159325,

4- while stock market traded value has a significant positive effect on GDP by +.248783

5- -turnover ratio has a positive significant relation with GDP by +.03973 and

6- -another negative significant effect with GDP Deflator by -.166266.

This result consists with most of previous studies result's on developing countries like "stock market development and economic growth evidence from selected developing countries "MD. Rabiul 2010. Tock market and economic growth in china baotai wang 2011 that stock market turns over ration and traded value have appositive effect on economic growth as their effect the liquidity of the Egyptian economy and we have positive effect for the liquidity on economic growth and stock market capitalization has negative effect on economic growth, as most of Egyptian market capitalization concentrated on building and construction sector which reduce capital for other sectors special industrial sector ,and big gap between stock market capitalization and turn over reduce the efficiency of allocation of resources among investment opportunities.

Study Recommendations: Reform of the legislative systems to ensure their compatibility and development with the stock market, raising the number of listed companies in order to activate the financial market, -Raising awareness among the members of society through regular publications and study days. between the importance of the stock market, moving forward in assisting small companies to join the stock exchange, try to attain stable economic policy., More financials innovations., More political stability, more governance to improve market efficiency, remove barriers facing foreign investors, Remove capital gains. Taxes, provide incentives for investors to direct their savings into stocks .....

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